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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/088,412	03/20/2002	Herbert Markl	80324 - 350190	5276
35657	7590	07/23/2008	EXAMINER	
FAEGRE & BENSON LLP			NAFF, DAVID M	
PATENT DOCKETING				
2200 WELLS FARGO CENTER			ART UNIT	PAPER NUMBER
90 SOUTH SEVENTH STREET				1657
MINNEAPOLIS, MN 55402-3901				
MAIL DATE		DELIVERY MODE		
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/088,412	MARKL ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	David M. Naff	1657	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 05 March 2008.  
 2a) This action is **FINAL**.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 39-45, 48, 49, 55-58, 60-69, 81, 82, 84, 85 and 89-92 is/are pending in the application.  
 4a) Of the above claim(s) 81, 82, 84, 85 and 89-92 is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 39-45, 48, 49, 55-58 and 60-69 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____ .
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)	5) <input type="checkbox"/> Notice of Informal Patent Application
Paper No(s)/Mail Date _____ .	6) <input type="checkbox"/> Other: _____ .

## **DETAILED ACTION**

An amendment of 3/5/08 amended claims 42, 55-57, 60 and 69, and canceled claim 52.

Claims in the application are 39-45, 48, 49, 55-58, 60-69, 81, 82, 84, 85 and 89-92.

Claims 81, 82, 84, 85 and 89-92 are withdrawn from further consideration pursuant to 37

5 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 6/25/07.

Claims 39-45, 48, 49, 55-58 and 60-69 are examined on the merits.

### ***Claim Rejections - 35 USC § 103***

10 Claims 39-45, 48, 49, 55-58 and 60-69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Portner et al (Appl Mirobial Biotechnol) (1449).

The claims are drawn to a method for culturing cells using a reaction system comprising a container for dialysis fluid, a culture vessel for culturing cells and a membrane module. The module contains a tube-shaped dialysis membrane. Dialysis fluid is circulated through the 15 dialysis fluid container and the membrane module outside of the tube-shaped dialysis membrane. Culture fluid containing cells is circulated through the culture vessel and the membrane module inside the tube-shaped dialysis membrane. A first gas is introduced into culture fluid in the culture vessel, and a second gas is introduced into culture fluid inside the tube-shaped dialysis membrane.

20 Portner et al disclose (Figure 2a, page 405) a reaction system as required by the present claims except for supplying gas to culture fluid in the dialysis module (membrane module). Portner et al disclose (page 404, right col, 3<sup>rd</sup> complete paragraph) that when cells are pumped through the external module, the cells can suffer from oxygen limitation. Figure 3a (page 406) discloses a reactor without an external module where a culture chamber is separated from a

dialyzing chamber by a dialysis membrane. Air is supplied to the culture chamber. In Figure 3b, air is supplied to the dialyzing chamber.

It would have been obvious to supply air to space containing circulating culture liquid containing cells in the dialysis module of the reactor of Figure 2a of Portner et al to prevent cells from suffering oxygen limitation as disclosed on page 404 since it would have been apparent from Figure 3a that oxygen can be supplied to cells in a chamber separated from a dialyzing chamber by a dialysis membrane. The conditions of dependent claims not disclosed by Portner et al are conditions that would be expected to require control when using the reaction system of Portner et al, and such conditions would have been matters of optimization depending on individual preference well within the skill of the art. Providing air to the dialyzing chamber as required by certain claims would have been suggested by Figure 3b of Portner et al.

### ***Response to Arguments***

The amendment has presented a 132 Declaration of Hebert Markl, which states Dr. Portner did not contribute to the conception of the claimed invention of the present application, and any disclosure relating to subject matter of the application in the Portner et al article was derived from applicant's own work, and is not a publication by others. However, the rejection is under 103, and the claimed invention is obvious from Portner et al rather than Portner et al disclosing the claimed invention. Therefore, Portner not being involved in the concept of the present invention does not mean Portner was not involved in the subject matter of the Portner et al article. Additionally, the inventor of the present invention is not Markl alone, but Markl in combination with Mahr, Eisbrenner and Stahl as co-inventors. Since Mahr, Eisbrenner and Stahl are not involved in the work of the Portner et al article, the Portner et al article is a publication by others, and the subject matter disclosed by Portner et al is not the work of the present co-inventorship.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

5 A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will  
10 be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David M. Naff whose telephone number is 571-272-0920. The examiner can normally be reached on Monday-Friday 9:30-6:00.

15 If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jon Weber can be reached on 571-272-0925. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David M. Naff/  
Primary Examiner, Art Unit 1657

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DMN  
7/21/08